

**IN THE DRAWINGS:**

The attached Replacement Sheet 4/4 includes changes to Figures 5 and 6 and replaces the current drawing sheet that includes Figures 5 and 6. In both of these Figures, the legend "Prior Art" has been added. There have been no other changes to these Figures.

Attachment: Replacement Sheet 4/4

## **REMARKS/ARGUMENTS**

The Applicant originally submitted Claims 1-40 in the application. In previous responses, the Applicant amended Claims 1-2, 5-7, 14, 17-18, 25-26, 28, 30-31, 33-35, 39-40, 49, 54-58, 61, 90, 96, 101, 106, 108 and 111. Additionally, the Applicant added Claims 41-115 and canceled Claims 4, 27, 40 and 62 without prejudice or disclaimer. In the present response, the Applicant has amended Claims 2, 5, 16, 72-73, 78, 82, 84-85 and 88 in response to objections and a §112, second paragraph rejection. Presently, the Applicant has not amended, added or canceled any other claims.

In the present Office Action, the Examiner has indicated that Claims 5-6, 8, 10-14, 28-38, 54-61, 70, 74-76, 82, 86, 92-93 and 103 include allowable subject matter. As indicated below, the Applicant argues for the allowance of all currently pending Claims 1-3, 5-26, 28-39, 41-61 and 63-115.

### **I. Formal Matters and Objections**

The Examiner has objected to the drawings for not showing every feature of the invention that is claimed and for not including the legend "Prior Art" with Figures 5 and 6. (See Office Action, page 2.) In response, the Applicant has amended Claims 16, 78 and 88 to replace "transformer" with "hybrid." Additionally, the Applicant has amended Figures 5 and 6 to include "Prior Art." Accordingly, the Applicant respectfully requests the Examiner to withdraw the objections to the drawings.

The Examiner has also objected to Claims 2 and 5 for including informalities. In response, the Applicant has amended Claims 2 and 5 to correct the informalities. Accordingly, the Applicant

respectfully requests the Examiner to remove the rejection of Claims 2 and 5 and allow issuance thereof.

**II. Rejection of Claims 7-14, 72-76 and 84-86 under 35 U.S.C. §112**

The Examiner has rejected Claims 7-14, 72-76 and 84-86 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the Applicant regards as the invention. In response, the Applicant has amended Claims 7, 9, 72-73 and 84-85. Accordingly, the Applicant respectfully requests the Examiner to remove the rejection of Claims 7-14, 72-76 and 84-86 and allow issuance thereof.

**III. Rejection of Claims 1, 3, 17, 25-26, 39, 41, 43-53, 63-64, 66-69, 71,79-81, 83, and 89-91, 94-97, 99-102 and 104-105 under 35 U.S.C. §102**

The Examiner has rejected Claims 1, 3, 17, 25-26, 39, 41, 43-53, 63-64, 66-69, 71,79-81, 83, and 89-91, 94-97, 99-102 and 104-105 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,602,583 to Citta. The Applicants respectfully disagree.

Citta relates to advanced television (ATV) services and reducing NTSC co-channel interference in ATV receivers. (*See* column 1, lines 9-12.) Citta does not teach utilizing an index to a constellation of levels chosen for a precoder, wherein the constellation of levels includes a basic constellation of levels and a set of levels outside the basic constellation of levels, such that the amplitude of the mapped constellation signal is limited as recited in independent Claims 1, 25, 39, 49, 68, 80, 90, 96 and 101. Instead, Citta discloses a precoder 20 having a modulo operator 24 that subtracts or adds 12 if an input signal is greater than or less than a 6.0, respectively. (*See* column 3, lines 3-5.) Thus, the modulo operator 24 of Citta does not utilize an index to a constellation of levels but instead adds or subtracts a constant to an input signal based on the value of the input signal.

Accordingly, Citta does not teach utilizing an index to a constellation of levels chosen for a precoder, wherein the constellation of levels includes a basic constellation of levels and a set of levels outside the basic constellation of levels, such that the amplitude of the mapped constellation signal is limited as recited in independent Claims 1, 25, 39, 49, 68, 80, 90, 96 and 101.

Since Citta does not teach each element of independent Claims 1, 25, 39, 49, 68, 80, 90, 96 and 101, Citta does not anticipate Claims 1, 25, 39, 49, 68, 80, 90, 96 and 101 and Claims dependent thereon. Accordingly, the Applicant respectfully requests the Examiner to withdraw §102(b) rejection with respect to Claims 1, 3, 17, 25-26, 39, 41, 43-53, 63-64, 66-69, 71, 79-81, 83, and 89-91, 94-97, 99-102 and 104-105 and allow issuance thereof.

#### **IV. Rejection of Claims 15-16, 77-78 and 87-88 under 35 U.S.C. §103**

The Examiner has rejected Claims 15-16, 77-78 and 87-88 under 35 U.S.C. §103(a) as being unpatentable over Citta view of U.S. Patent No. 6,393,029 to Turner. The Applicants respectfully disagree.

As discussed above, Citta does not teach utilizing an index to a constellation of levels. Additionally, Citta does not suggest utilizing an index to a constellation of levels. On the contrary, Citta provides no motivation to utilizing an index to a constellation of levels since Citta adjusts input signals by adding or subtracting a constant. Citta, therefore, does not teach or suggest each element of independent Claims 1, 68 and 80.

Turner is directed to a extending the range of digital communications transported over a two-wire telephone wireline channel. (*See* column 1, lines 19-30.) Turner has not been cited to cure the deficiencies of Citta but to teach the subject matter of the above dependent Claims.

Additionally, the Applicants do not find where Turner teaches or suggests utilizing an index to a constellation of levels. Accordingly, the cited combination of Citta and Turner does not provide a *prima facie* case of obviousness of independent Claims 1, 68 and 80 and Claims 15-16, 77-78 and 87-88 which depend thereon, respectively. The Applicant, therefore, respectfully requests the Examiner to withdraw the §103(a) rejection of Claims 15-16, 77-78 and 87-88 and allow issuance thereof.

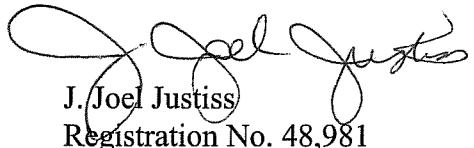
**V. Conclusion**

In view of the foregoing amendment and remarks, the Applicant now sees all of the Claims currently pending in this application to be in condition for allowance and therefore earnestly solicits a Notice of Allowance for Claims 1-3, 5-26, 28-39, 41-61 and 63-115.

The Applicant requests the Examiner to telephone the undersigned attorney of record at (972) 480-8800 if such would further or expedite the prosecution of the present application. The Commissioner is hereby authorized to charge any fees, credits or overpayments to Deposit Account 08-2395.

Respectfully submitted,

HITT GAINES, PC



J. Joel Justiss

Registration No. 48,981

Dated: August 25, 2006

P.O. Box 832570  
Richardson, Texas 75083  
(972) 480-8800